

# Purchase Order Receipt Listing

Wednesday, September 27, 2017 10:43:20 AM

All Vendors PO ID PO37836 Receipt Dates from 9/26/2017 to 9/26/2017 All Line Item Types  
All Item ID/GL/WOs All Rec. Employees All Currencies  
Grouped by Vendor ID

All amounts are calculated in domestic currency. Page 1 of 1

Purchase Order ID/ Curr Type	Line Nbr/ Insp	Project ID	Reference/ Description/ Cert Std	PO U/M/ Stock U/M	Required Date Required Qty	Recv Date/ Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
Vendor ID/Vendor Name VC-CAM002 Acier Ouellette Inc.											
PO37836	2		M4140H-R1.750		10/6/2017	9/26/2017	2.0000	\$29.91	0.0000	0	\$59.83
CAD	No		4140 Round Bar		2.0000	PL0U01		\$59.83	0.0000	0	
			1.750								
			m138616								
	3		MT-HRPO-S6GA	sf	10/6/2017	9/26/2017	50.0000	\$5.74	0.0000	0	\$287.17
	No		Hot Rolled Pickled & Oiled Steel Sheet		50.0000	PL0U01		\$287.17	0.0000	0	
			6GA								
			m138616								
	4		M1018R2.250	f	10/6/2017	9/26/2017	1.0000	\$13.69	0.0000	0	\$13.69
	No		M1018R2.250		1.0000	PL0U01		\$13.69	0.0000	0	
			m138616								
	5		MT-HRS-P-0.375	sf	10/6/2017	9/26/2017	16.0000	\$11.10	0.0000	0	\$177.63
	No		Hot Rolled Steel Plate 0.375" (44W)		16.0000	PL0U01		\$177.63	0.0000	0	
			m138616								
	6		71401-45		10/6/2017	9/26/2017	1.0000	\$0.00	0.0000	0	\$0.00
	No		PROCUREMENT QUALITY CLAUSES		1.0000	PL0U01		\$0.00	0.0000	0	
			m138616								

Total Received Quantity: 70.0000  
Total Qty to Inspect (PO U/M): 0.0000  
Total Reject Quantity: 0.0000  
Total Receipt Value: \$538.32  
Total Balance Due Quantity: 0.0000



ACIER OUELLETTE INC.

Order - Sales

COPY

CO00052756

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Customer N°

CL10001056

Date

2017/09/22

Delivery date

2017/09/26

Your order N°

37836

Processed by

Josianne Bourdon

Salesman

Carrier

OUELLETTE VALLEYFIELD

Credit Terme

Net 30 Days

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.

HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att: CHANTAL LAVOIE Tél.: 613-632-5200

Delivery Route 5

Page

1

Product Description	Weight	Qty	U/M	PCS NB				Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C	OUT
1 PLATE 44W 3/8 RANDOM P44-38-V 4116 1 X 4' X 4' HEAT: 7093C4-51 COUPE AU FEU 3 FEU 9-89 DAS 5	244.80	16.00	PI2_\$CLB	1.00							
2 ROUND CR 2 1/4 1018 RANDOM RCR-214-V 5301 1 X 12" HEAT: 136550 COUPE A LA SCIE 5 SCIE 9-89 DAS 5	13.52	1.00	PL_\$CLB	1.00							
3 PLATE HRPO 3/16 RANDOM NS PPO-316-V 9029 1 X 5' X 10' HEAT: AC-9571-RV-25/09 9373C4-55 DAS 5 9-89	383.00	50.00	PI2_\$CLB	1.00							

NIR : R-109516-6

Next Page...



**ACIER OUELLETTE INC.**  
935, Boul. du Hâvre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

## Order - Sales

**COPY**

CO00052756

Customer N° CL10001056  
Date 2017/09/12

Delivery date **2017/09/26**

Your order N° 37636

Processed by Josianne Bourdon

Salesman

Carrier

Credit Terme

OUELLETTE VALLEYFIELD

Net 30 Days

### Billed to

DART AEROSPACE LTD  
1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

### Shipped to

, Ontario,  
Att : CHANTAL LAVOIE Tél.: 613-632-5200  
Delivery Route 5

Page

2

Product Description	Weight	Qty	U/M	Page 2										
				PCS NB			Internal Use Only							
				CMD	EXP	B/O	IN	I	S	C	OUT			
4 COLD DRAWN SEAM. TUBING 1" OD X .120 4130 N 1 X 20' HEAT: 217067 AC9573-4M-25/09		1.00	UN	1.00										
5 ROUND 4140 HEAT TREAT 1 3/4 (20R) R4140-134H-20 4910 DAS 1 X 2' HEAT: 166509 COUPE A LA SCIE 5 SCIE 1 9-89 SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE	16.36	2.00	PL_SCLB	1.00										
		1.00	UN	0.00										

Total Weight (LBS) : 657.68

Total Weight (LBS) : 657.68

NIR : R-109516-6

**Conditions :**  
All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc" is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document received. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% resending charge.

Prepared By :

Verified By :

Delivered By :

Time

Customer's Signature

Y M D

Total (\$CAD)

Deposit 1 055.18  
Balance 0.00  
1 055.18



ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

SO No., Item & Date:	8050589 000260 2017/03/12	Shipment No. & Date:	1200008792 2017/03/12	TC No., Date & Time:	ESA-385275 2017/03/13 - 01:50:39
Sold to Customer Name and Address:	LES ACIER TRANSBEC (1997) LTEE BOUL LE CORBUSIER #201-105-4 LAVAL, Quebec, Canada H7L 5R2	Ship to Customer Name and Address:	LES ACIER TRANSBEC (1997) LTEE RUE JEAN COUTU 350 VARENNES, Quebec, Canada J3X 1P7	Customer PO NO./Item:	G-46220(REV) 78
				BOL NO.:	1200008792
				Cust. Part No.:	
				Carrier:	C P RAIL (CAD FUNDS) - CGLX 12069

Customer Specification: HR STEEL SHEET HSLA 50 (1997) LTEE TO THE CHEMISTRY OF CSA G40.21 44W (2013) TOP SEMI CRITICAL SURFACE IMPROVED SHAPE GAUGE TYPE MIN - 0/+ 0.0100 -

Supplementary Instructions: Test Cert 1.mtr@alcan.ca Test Cert 2: nathalie.legault@aciertransbec.com

Insp T/R: Test Report For info Only

Cust Use: RESALE IMPR SHAPE & SURF

ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES.  
THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705) 944-4568 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT. THIS TEST REPORT HAS BEEN GENERATED BY A COMPUTERIZED SYSTEM AND IS VALID WITHOUT A PHYSICAL SIGNATURE.

MEETS EN 10204 3.1

ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM

ALL HEATS FULLY KILLED.

HEATS INDICATED WITH (\*) FINE GRAINED.

HEATS INDICATED WITH (+) MADE IN CANADA FOR NAFTA DUTY PREFERENCE AND NAFTA MARKETING PURPOSES

Dimensions (T x W x L)	Batch No.	Heat No.-MS	Quantity	Pcs
0.3650" x 48.000"	XBM9191	7093C4-51	42,184 LB	1

Heat No. (wt%)	C	Mn	P	S	Si	Cr	Ni	Cu	Mo	Al	Nb	V	Ti
7093C4*	0.17	0.87	0.009	0.004	0.030	0.02	0.02	0.03	0.00	0.040	0.017	0.009	0.002

..... MECHANICAL PROPERTIES .....

Tensile Tests	SRCE	LAB	GAUGE	COND	METH	DIR	LOC	YIELD(KSI)	TENSILE(KSI)	EL SCALE	ELONG(%)
Heat No. 7093C4											
7093C4	DSPC	ALG	0.3650	AR	2	F	F	55.0	76.0	2"	42

*Comp*

KASHIF REHMAN  
MANAGER METALLURGICAL SERVICES

\*\*\*WARNING\*\*\* THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MATERIAL SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE, INCLUDING DESIGN OR CALCULATIONS, AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.



ARANA Y LUPARDO, 2  
48490 UGAO-MIRAVALLS/VIZCAYA (SPAIN)  
Tfno.: 946480211  
Fax: 946480128  
Email: calibrados@calibradospradera.es  
www.calibradospradera.es

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a / Made according to:

EN 10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 44806

ALBARAN 44806	CLIENTE LES ACIERS TRANSBEC (1997) LTFE	CUSTOMER
---------------	---	----------

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm: Bright steel products. Technical delivery conditions.

PRODUCTO SOLICITADO / PRODUCT ACCORDING ASTM A108

Nº PEDIDO	DESCRIPCION	UNIDADES	OT	Medida
-----------	-------------	----------	----	--------

PAJ-46322	1018 RED. ESTIRADO 47.63 (1 7/8")	1.170	-0.076	915794	47.63
PAR-46187	1045 RED. ESTIRADO 50.80 (2")	1.062	-0.102	915559	50.80
OU-46514	1018 RED. ESTIRADO 42.86 (1 11/16")	1.116	-0.076	136191	42.86
MJP-46560	1018 RED. ESTIRADO 63.50 (2 1/2")	1.078	-0.076	136287	63.50
MJP-46560	1018 RED. TORNADO 76.20 (3")	1.104	-0.102	915720	76.20
PAR-46465	1018 RED. ESTIRADO 41.28 (1 5/8")	978	-0.076	915595	41.28
OU-46534	1018 RED. ESTIRADO 50.80 (2")	1.076	-0.076	133019	50.80
OU-46534	1018 RED. ESTIRADO 57.15 (2 1/4")	1.082	-0.076	136550	57.15
PAR-46465	1018 RED. ESTIRADO 44.45 (1 3/4")	1.002	-0.076	915642	44.45
PAR-46465	1045 RED. ESTIRADO 50.80 (2")	1.060	-0.102	915559	50.80
PAJ-46606	1018 RED. TORNADO 101.6 (4")	1.170	-0.102	915786	101.60
PAJ-46636	1018 RED. TORNADO 76.20 (3")	1.104	-0.102	915720	76.20
PAJ-46636	1018 RED. ESTIRADO 41.28 (1 5/8")	2.096	-0.076	915595	41.28
PAJ-46636	1018 RED. ESTIRADO 44.45 (1 3/4")	850	-0.076	915642	44.45
PAR-46496	1018 RED. ESTIRADO 63.50 (2 1/2")	1.076	-0.076	915650	63.50
MJP-46589	1018 RED. ESTIRADO 50.80 (2")	986	-0.076	136376	50.80
KUP-46589	1018 RED. ESTIRADO 57.15 (2 1/4")	1.082	-0.076	136377	57.15
KN-45449	1018 RED. ESTIRADO 63.50 (2 1/2")	924	-0.076	915650	63.50
KN-45449	1018 RED. TORNADO 76.20 (3")	1.104	-0.102	915720	76.20
KN-45449	1018 RED. TORNADO 88.90 (3 1/2")	902	-0.102	915641	88.90
PAR-46825	1018 RED. ESTIRADO 61.91 (2 7/16")	1.076	-0.076	135756	61.91

Composicion quimica de la colada / Chemical Analysis of Heat

Medida	OF	COLADA	C	Mn	P	S	SI
47.63	915794	40212 IS	0.170	0.680	0.020	0.003	0.320
50.80	915559	40209 IS	0.445	0.680	0.012	0.025	0.310
42.86	136191	39873 IS	0.180	0.740	0.015	0.004	0.310
63.50	136287	40570 IS	0.160	0.680	0.013	0.022	0.300
76.20	915720	40324 IS	0.170	0.610	0.013	0.020	0.290
41.28	915595	39873 IS	0.180	0.740	0.015	0.004	0.310
44.45	915642	40006 A	0.164	0.658	0.008	0.027	0.184
50.80	915559	40209 IS	0.445	0.680	0.012	0.025	0.310
101.60	915786	39882 A	0.163	0.724	0.019	0.026	0.174
76.20	915720	40324 IS	0.170	0.610	0.013	0.020	0.290
41.28	915595	39873 IS	0.180	0.740	0.015	0.004	0.310
50.80	133019	39235 A	0.161	0.733	0.020	0.018	0.196
57.15	136550	40585	0.170	0.700	0.010	0.017	0.100
44.45	915642	40006 A	0.164	0.658	0.008	0.027	0.184
50.80	915559	40209 IS	0.445	0.680	0.012	0.025	0.310
101.60	915786	39882 A	0.163	0.724	0.019	0.026	0.174
76.20	915720	40324 IS	0.170	0.610	0.013	0.020	0.290
41.28	915595	39873 IS	0.180	0.740	0.015	0.004	0.310
50.80	136191	39235 A	0.161	0.733	0.020	0.018	0.196
44.45	915642	40006 A	0.164	0.658	0.008	0.027	0.184
50.80	915559	40209 IS	0.445	0.680	0.012	0.025	0.310
101.60	915786	39882 A	0.163	0.724	0.019	0.026	0.174
76.20	915720	40324 IS	0.170	0.610	0.013	0.020	0.290
41.28	915595	39873 IS	0.180	0.740	0.015	0.004	0.310
50.80	136287	40570 IS	0.160	0.680	0.013	0.022	0.300
63.50	136191	39873 IS	0.180	0.740	0.015	0.004	0.310
42.86	136191	39873 IS	0.180	0.740	0.015	0.004	0.310
57.15	136877	40585	0.170	0.700	0.010	0.017	0.100
50.80	136876	40014 IS	0.160	0.710	0.011	0.005	0.340
57.15	136877	40585	0.170	0.700	0.010	0.017	0.100



ARANA Y LUPARDO, 2  
48490 UGAO-MIRAVALLÉS/VIZCAYA (SPAIN)  
Tfno.: 946480211  
Fax: 946480128  
Email: calibrados@calibradosprados.es  
www.calibradosprados.es

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a / Made according to:

EN-10204/DIN 50049

3.1

Nº CERTIFICADO / CERTIFICATE NR.: 44806

ALBARAY 44806	Delivery Note Nr.
CLIENTE LES ACIERS TRANSBEC (1997) LTÉE	CUSTOMER

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norma :

Bright steel products. Technical delivery conditions.

	C	Me	P	S	SI
63,50	0,160	0,680	0,013	0,022	0,300
76,20	0,170	0,610	0,013	0,020	0,250
88,90	0,170	0,710	0,010	0,003	0,310
61,91	0,160	0,710	0,016	0,003	0,330

Características mecánicas / Mechanical properties

MECIDA	OF	COLADA	Resistencia Tens. strength N/mm <sup>2</sup>	Lim. elástico Yield point 0,2% N/mm <sup>2</sup>	Alargamiento Elongation Lo=50 mm.	Dureza HB
47,63	915794	40212 IS	0,00	0,00	0,00	154,00
50,80	915559	40209 IS	0,00	0,00	0,00	227,00
42,86	136191	39873 IS	0,00	0,00	0,00	142,00
63,50	136287	40570 IS	0,00	0,00	0,00	156,00
76,20	915720	40324 IS	455,81	321,93	35,00	146,00
41,28	915595	39873 IS	0,00	0,00	0,00	142,00
50,80	133019	39235 A	480,20	338,10	31,00	0,00
57,15	136550	40585	478,00	305,00	33,00	133,00
44,45	915642	40006 A	450,80	317,46	0,00	0,00
50,80	915559	40209 IS	0,00	0,00	0,00	227,00
101,60	915786	39882 A	480,20	338,10	28,00	0,00
76,20	915720	40324 IS	455,81	321,93	35,00	146,00
41,28	915595	39873 IS	0,00	0,00	0,00	142,00
44,45	915642	40006 A	450,80	317,46	0,00	0,00
63,50	915850	40570 IS	0,00	0,00	0,00	156,00
50,80	136876	40014 IS	0,00	0,00	0,00	155,00
57,15	136877	40585	478,00	305,00	33,00	133,00
63,50	915850	40570 IS	0,00	0,00	0,00	156,00
76,20	915720	40324 IS	455,81	321,93	35,00	146,00
88,90	915641	39884 IS	449,82	317,52	29,00	155,00
61,91	135756	40309 IS	0,00	0,00	0,00	145,00

Calidad Superficial

DESCRIPCIÓN	OF	Clase
EN 10277-1		

Observaciones: BARRAS DE ACERO ESTIRADAS / TORNREADAS EN FRÍO SIN ALEAR



ARANA Y LUPARDO, 2  
48490 UGAO-MRAVALLES/VIZCAYA (SPAIN)  
Tfno.: 946480211  
Fax: 946480128  
Email: calpradera@calibradospradera.es  
www.calibradospradera.es

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a /Made according to:

EN 10204/DIN 50049

3.1

ALBARAN	44806	CLIENTE	LBS ACIERS TRANSBEC (1997) LTÉE
Delivery Note Nr.		CUSTOMER	

Norma : EN 10277

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm :

Bright steel products. Technical delivery conditions.

DEPARTAMENTO DE CALIDAD: Certifican que el mencionado producto cumple con las especificaciones del pedido.

QUALITY DEPARTMENT: Certify that the product fulfills the order specifications.

Firmado: Susana Fernández  
Directora de Calidad

Fecha/Date: 11/11/2016



Sistema de  
Gestión de  
RSC ISO 9001:2008  
ID 110004224





ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

SO No., Item & Date:	8053475 000070 2017/06/04	Shipment No. & Date:	1000243071 2017/06/04	TC No., Date & Time:	ESA-405867 2017/06/04 - 13:22:12
				Customer PO NO./Item:	791355 / 7
				BOL NO.:	FB075374
				Cust. Part No.:	
				Carrier:	TRANSCARE LOGISTIC CORP. - 638
Customer Specification: HIR STEEL SHEET Carbon CQ / CQ ASTM A1011 CS TYP B (2015) Top Semi Critical Surface Improved Shape Pickled Oiled Gauge type MIN - 0/+ 0.0060 " Coil break considered					
Supplementary instructions: Test Cert 1:nancy.duni@tyerson.com					
Insp TIR: Chemical Analysis					
ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES. THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (709) 945-4095 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT. THIS TEST REPORT HAS BEEN GENERATED BY A COMPUTERIZED SYSTEM AND IS VALID WITHOUT A PHYSICAL SIGNATURE.					
MEETS EN 10204 3.1					
ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM					
ALL HEATS FULLY KILLED.					
HEATS INDICATED WITH (*) FINE GRAINED.					
HEATS INDICATED WITH (+) Made in Canada for NAFTA duty preference and NAFTA marking purposes					
Dimensions (T x W x L)					
0.1770 " x 60.000 "		Batch No.		Heat No.-MS	
		PBO7006		9373C4-55	
		Quantity		Pcs	
		53,550 LB		1	
CHEMICAL PROPERTIES					
Heat No. (wt%)	C	Mn	P	S	Si
9373C4*	0.04	0.27	0.008	0.003	0.020
				Cr	Ni
				0.01	0.01
				Cu	Mo
				0.01	0.00
				Al	Nb
				0.023	0.000
				V	B
				0.000	0.0000
				Ti	N
				0.001	0.0060

KASHIF REHMAN  
MANAGER METALLURGICAL SERVICES

**\*\*WARNING\*\*** THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATION) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.



Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Padboltern  
Deutschland  
Tel.: +49 5254 81-0 Fax: +49 5254 13666

**BENTELER**

Steel/Tube

**ABNAHMEPRÜFZEUGNIS EN 10204-3.1**

INSPECTION CERTIFICATE EN 10204-3.1  
CERTIFICAT DE RECEPTION EN 10204-3.1  
EN 10204-2005-01

Benteler Steel/Tube GmbH, Postfach 1340, 33043 Padboltern, Deutschland

TW Metals  
The Aboretum, Suite 204  
760 Constitution Drive  
EXTON PA 19341  
USA

Dokument-Nr.: 41-717496/001/P

Document No.:  
No. du document:

Kunden-Bestell-Nr.: 12-12119 TW M49282168

Purchase Order No.:  
No. de commande du client:

Benteler Auftrags-Nr.: 1578716

Benteler Order No.:  
No. de commande Benteler:

Versandzeilen-Nr.: 4119254

Dispatch Note No.:  
No. d'avis d'expédition:

Produkt: NAHTLOSE STAHLROHRE

Product: SEAMLESS STEEL TUBES

Produit: TUBES D'ACIER SANS SOUDURE

Lieferbedingungen: AMS-T-67368 Type 1, ASTM-A 519-2006, MIL-T-67368 Type 1

Terms of delivery:

Conditions de livraison:

Maße - Toleranzen:

Dimensions-tolerances:

Dimensions-tolerances:

Stahlsorte:

Steel grade:

Nuance d'acier:

Lieferzustand:

Delivery condition:

État de livraison:

Produktkennzeichnung:

Product marking:

Marquage du produit:

FSD: BENTELER AMS-T-6736 B 1-MIL-T-6736 B 1-4130 N HEAT-NO. CD AQ S DIMENSIONS WA

GERMANY

Marquage du produit:

AMS-T-6736 B 1-MIL-T-6736 B 1-4130 N HEAT-NO. CD AQ S DIMENSIONS WA  
FSD: BENTELER AMS-T-6736 B 1-MIL-T-6736 B 1-4130 N HEAT-NO. CD AQ S DIMENSIONS WA  
GERMANY

Blatt: 1 / 4  
Page:

Page:

Inspection No.:  
No. du certificat:

Hersteller:  
Manufacturer:

Producteur:  
Producteur:

Herstellerzeichen:  
Manufacturer's brand:

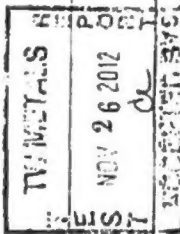
Marque du producteur:  
Marque du producteur:

Stempel des Abnahmebeauftragten: WA  
Stamp of the inspection representative:

Pour le client du producteur:

Stahlschmelzungsverfahren: ELEKTROSTAHL  
Steelmaking process: ELECTRIC FURNACE

Procédé d'élaboration de l'acier: FOUR ELECTRIQUE





Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel.: +49 5254 81-0 Fax: +49 5254 13666

**BENTELER**

Steel/Tube

Blatt: 3 / 4  
Page:  
Page:

ABNAHMEPRÜFZEUGNIS EN 10204-3.1 Dokument-Nr.: 41-717496/001/P  
INSPECTION CERTIFICATE EN 10204-3.1 Document No.:  
CERTIFICAT DE RECEPTION EN 10204-3.1 No. du document:

Zugversuch längs Vollprobe / Tensile test longitudinal Full section test specimen / Essai de traction longitudinale Eurovette a section complete

Pos. Item	Proben-Nr. Specimen No.	Schmelzen-Nr. Heat No.	Probenabmessung Specimen dimensions	Streckgrenze Yield strength	Zugfestigkeit Tensile strength	Dehnung Elongation	Einschnürung Area reduction
Poste	No. de l'éprouvette	No. de coulée	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement	Coefficient de striction
Anforderungen Requirements Exigences	mm			Rp 0,2 % N/mm <sup>2</sup> MIN 517	Rm N/mm <sup>2</sup> MIN 655	A2 % MIN 12	1. Formule 1. Formule 1. Formule
0016	000001	217067	25,40 X 3,05	647	813	22	
0016	000002	217067	25,40 X 3,05	648	813	22	
0016	000003	217067	25,40 X 3,05	628	816	22	
0016	000004	217067	25,40 X 3,05	647	815	22	

Randentkohlung / Surface decarburization / Décarburation superficielle

Pos. / Item / Poste: 0016

acc. MIL-T-67368 / AMS-T-67368, decarburization outside max. 0.43 mm, decarburization outside + inside max. 0.56 mm

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0016

Certificate remarks: The steel grade corresponds to MIL-T-67368, AMS 6360 and AMS 6371J, material free from mercury contamination, FAR BAA: 52.225-1 CANNOT COMPLY, DFARS BAA: 252.225-7001 CAN COMPLY, FAR TAA: 52.225-5 CAN COMPLY, Country of origin of the material and heat: Germany; see appendix page 1 of 1.

Pos. / Item / Poste: 0016

Macroscopic examination: acc. to ASTM-E 381

Pos. / Item / Poste: 0016

Magnetic particle inspec.: acc. to AMS 2301 G/2640, on prematerial

Pos. / Item / Poste: 0016

Grain size: acc. to ASTM-E 112, Grain size 5 and finer, Longitudinal structure microscopy. On prematerial

Verkäufer(in) / Salesman/ woman in charge / Personne chargée : Mr Schwarz, Tel.: 05254/81-4347, Fax: 4394

NOV 26 2012

Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel. +49.5254.81-0 Fax: +49.5254.13666

**BENTELER**

Steel/Tube

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1

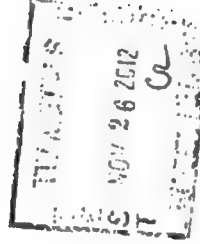
CERTIFICAT DE RECEPTION EN 10204-3.1

41-717496/001/P

Dokument-Nr.:  
Document No.:  
No. du document:

Prüf-Nr.:  
Inspection No.:  
No. du certificat:

Blatt: 4 / 4  
Page:  
Page:



Paderborn Schloß Neuhaus, 05.10.2012, TEL.: 05254.81-1768 FAX: 05254.81-1762

Abnahmebeauftragter  
Inspection representative

Contrôleur

THOMAS GOLLAN / Tst

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtskräftig.  
We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature.  
Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique et est valide sans signature.

10204 3.1 10204 3.1 10204 3.1 10204 3.1 10204 3.1 10204 3.1 10204 3.1 10204 3.1 10204 3.1 10204 3.1

Benteler SteelTube GmbH  
Residenzstraße 1  
33104 Paderborn  
Germany  
Tel. 49 5254 81-0 Fax: 49 5254 13666

**BENTELER**

SteelTube

Abnahmeprüfzeugnis EN 10204-3.1 / Anhang  
Inspection Certificate EN 10204.3.1 / appendix  
Certificat de réception EN 10204-3.1 / appendice

Dokument-Nr.  
Document No.:  
No. de document:

41-717496/001/P

Blatt: von  
Page: 1 of 1  
Page: de

Halbzeuguntersuchung: Stahlsorte 4130 / Semi finished product examination: grade 4130 / Produit semi-fini: nuance 4130

Schmelzen-Nr. Heat No. Coulée No	Position Item Poste	Korngröße Grain size Grosseur de grain (ASTM-E 112)	Härbarkeit (min. Anforderungen) Hardenability (min. requirements) Trempeabilité (exigence min.) (ASTM-A 255)		Magnetpulverprüfung Magnetic particle inspection Essai à la poudre magnétique (AMS 2301G / 2640J)		Makroätzung Macrostructure test Essai de macrostructure (ASTM-E 381)		
		min. 5	J(5/16") min. 35 HRC	J(8/16") min. 28 HRC	F max. 0.34	S max. 0.25	max. S 2	max. R 1	max. C 2
217067	016	10	39	31	0.039	0.024	S 2	R 1	C 2
Decarburization Depth		Outside 0.050 mm	Inside 0.030 mm				NOV 26 2012 [Signature]		

Der Stahl ist frei von Quecksilberverunreinigungen. / The steel is free of mercury contamination. / L'acier est libre des contaminations de mercure

Paderborn Schloß Neuhaus, 05.10.2012  
Tel.: (0)5254 81-1992 Fax: (0)5254 81-1991

**BENTELER**

SteelTube GmbH

Abnahmebeauftragter  
Inspection representative  
Contrôleur

Thomas Gollan

#-126385 Item-CDS 1.000 .120 .760 4130 Heat #-217067

# Eaton Steel Bar Company Inspection Certificate 1601418

EN-10204:2004-3-1

BOL	Ship Date	Customer PO	Item	Customer Item	Item Description
201063	27-Oct-2016	B96087	11132 rev 004	Y016262	1-34 HR RD 4140/42MM 24IN SBQ QTSF FG MST

All bundles listed below were produced using steel from Heat 166509 issued by ALTON STEEL and were completed from Eaton Steel Job 798489.

Chemistry	Description	Value	Units	Heat Treating	Description	Value	Units
C	Carbon	0.41000	PMOT	TEMPER TEMP F	Temper Temp in Fahrenheit	500 - 2500	DEGP
Mn	Manganese	0.89000	PMOT	AUSTEN TEMP F	Austenitize Temp in Fahrenheit	1600 - 1700	DEGP
P	Phosphorus	0.01400	PMOT	SR TEMP F	Stress Relief Temp in Fahrenheit	500 - 2500	DEGP
S	Sulfur	0.02200	PMOT	MAGNETISM-IT	Magnetism in Gauss	0 - 20	GN
Si	Silicon	0.23000	PMOT	TIME AT TEMP	Time at Temperature	Report	
Ni	Nickel	0.09000	PMOT	QUENCH MEDIA	Quench Media Requirements	CERTIFIED	
Cr	Chromium	0.84600	PMOT	STRESS FREE	Cert Stress Free	CONFORM	
Mo	Molybdenum	0.02200	PMOT	HT14140-420T	Quench & Temper		
Al	Aluminum	0.00100	PMOT	MILL PROCESSING	Description	Value	Units
Cu	Copper	0.02800	PMOT	RED RATIO	Reduction Ratio	USA	
V	Vanadium	0.00200	PMOT	ROLLED COUNTRY	Rolled in Country	USA	
N	Nitrogen	0.01000	PMOT	ASTA STANDARD	Description	Value	Units
P+S	Element Sum Limit	0.03600	PMOT	A434-30a-BC	ASTM A434 BC Tensile and Yield Properties	CONFORM	
DI	Ideal Diameter	4.97000	IN	STRUCTURE	Percent Tempered Martensite	80 - 100	PCT
Cleanliness	Description	Value	Units	MICROSTRUCTURE	Reported Microstructure	TM	
MACRO ETCH	Report macro etch results.	1.7344 - 1.7656	IN	Tag Number	Qty/Units	Length	
DIAMETER	Description	Value	Units	022-2875938	4155 LBS	21ft36in/24ft3in	
Jominy	Description	Value	Units				
J1	2/16 inch from Quenched End	56	HRC				
J2	3/16 inch from Quenched End	56	HRC				
J3	4/16 inch from Quenched End	56	HRC				
J4	5/16 inch from Quenched End	56	HRC				
J5	6/16 inch from Quenched End	55	HRC				
J6	7/16 inch from Quenched End	54	HRC				
J7	8/16 inch from Quenched End	52	HRC				
J8	9/16 inch from Quenched End	51	HRC				
J9	10/16 inch from Quenched End	50	HRC				
J10	11/16 inch from Quenched End	0.06000	HRC				
J11	12/16 inch from Quenched End	47	HRC				
J12	14/16 inch from Quenched End	45	HRC				
J13	16/16 inch from Quenched End	43	HRC				
J14	18/16 inch from Quenched End	42	HRC				
J15	20/16 inch from Quenched End	41	HRC				
J16	22/16 inch from Quenched End	0.07000	HRC				
J17	24/16 inch from Quenched End	40	HRC				
J18	26/16 inch from Quenched End	37	HRC				
J19	28/16 inch from Quenched End	35	HRC				
J20	32/16 inch from Quenched End	35	HRC				
Mechanical	Description	Value	Units				
TENSILE PSI	Tensile Strength in PSI Units	151300	PSI				
YIELD PSI	Yield Strength in PSI Units	130300	PSI				
ELONGATION	Percent Elongation	19.00	PC				
REDUCTION	Percent Reduction in Area	55.0	PC				
BRINELL SURF	Brinell Surface	321.0	BDN				

Bundle tags with Eaton Steel identifiers reference the steel grade, heat, purchase order number, part number, product description and weight. Tested and certified in accordance with Eaton Steel's Quality Manual QM-C0001 / Rev 3 / 2/2013.

We hereby certify the above to be in conformance, and a true copy of data represented in company records. This steel was not subject to weld repair or exposed to mercury while in the possession of Eaton Steel.

Created on 27-Oct-2016  
 Thomas Snabes, Corporate Metallurgist  
 10221 Capital Avenue, Oak Park, MI 48237 USA  
 Tel: 248-398-3434  
 Fax: 248-398-1434  
 http://www.eatonsteel.com

This document was prepared by means of electronic data processing and is valid without signature.



DA 7110	East Steel Corporation 1221 Capital Avenue Oak Park, NJ 03237	SEMP TO	Easton Steel Corporation c/o Apple Head Trust 15-00 Capital Street Oak Park, NJ 03237
---------	---	---------	--

Date	AS Ord No.	AS Ord Line Item	Customer PO NO/PI	Customer Pk.	Specifications	Weight	Unit
02/06/2015	80761	AS Ord Line Item		19002	156913-M5 CNS 15691 ASTM A 304-11 ASTM A 312-07	15.6913 M = 37.3	Standard Case

STUD CASE 11-2017.1

Heat Number	CHEMICAL ANALYSIS TEST METHODS ASTM E-415 & E-1019																Band Test	
	YIELD P21								TENSILE P21									% Elongation
	C	Mn	P	S	Si	Fe	Cu	Ni	Co	Mo	Sn	Al	W	As	Se	Th		
86529	0.61	0.49	0.014	0.022	0.23	0.23	0.23	0.197	0.46	0.112	0.012	0.091	0.022	0.018	0.0021	0.0020	0.100	0.061

[illegible]

TEST NUMBER	TA	TB	TC	TD	HA	HB	HC	HD	HE	HF	HEAVY
ASTM E-85 IMPROVED A											
ASTM E-85 IMPROVED C											
SAC 2412											
ASTM E-248											

ADDITIONAL COMMENTS

1 1 1

166523

#### ADDITIONAL COMMENTS

[illegible][illegible]



# Lab Services Report



**Bill To:** Apollo Heat Treating  
 10400 Capital Avenue  
 Oak Park, MI  
**Attn:** Randy Call  
 rca1@apolloht.com

10221 Capital Avenue  
 Oak Park MI 48237  
 (248)543-3578 telephone  
 (248)398-1434 facsimile

**Ship To:** Apollo Heat Treating  
 10400 Capital Avenue  
 Oak Park, MI  
**Report Date:** 10/14/2016  
**Report ID:** 16-3002  
**Request ID:**

This report contains results for the indicated services performed on the following sample(s):

9-11132 QTSF					
PART NO	11132 QTSF	Finish	HR	Shape	Round
Size	1-3/4	Grade	4140	Work Order	799489
Titan Sample ID	Host	Customer Sample ID			
19-3002-1	160523	W0 799489 Job 2167			

*Steve Avery*

**Report Approved By:** Steve Avery

**Mechanical Testing**

ASTM E8M-15a

ASTM E10-15



**Mechanical Testing**

ASTM E8M-15a

ASTM E10-15

Sample ID	Ultimate Tensile, psi	0.2% Offset Yield, psi	Reduction of Area, %	HBW Surface
16-3002-1	151,300	138,300	19	55
				321

**Test Comments**

Mechanicals tested at 1400 Radia

Any services with a section marked with \* are not part of Titan Metallurgy's current AZLA accreditation.  
 All testing performed by Titan Metallurgy was done at ambient (room) temperature.

Any services within a section marked with \* are not part of Titan MedSurge's current A2LA accreditation.  
Assessing performed by Titan MedSurge was done at a client's (TSM) discretion.



Heat Treating & Processing Company, LLC

10400 Capital Avenue • Oak Park, Michigan 48237 • (248) 398-3434

### CERTIFICATION OF HEAT TREATMENT

Date: 10 / 17 / 2016

Certification Number: 16 - 0467

Customers Order Number: 799489

Part Number: 10902 - 11132

Heat Number: 166509

Heat Treat Job Number: 2167

Material: 4140

Quantity: 206 Pcs.

Weight: 41,080 Lbs.

Description: 1.7500" Diameter x 24" Length

Per Specification: ESHI HY4140 - 42QT

	Temperature	Time at Heat	Coolant
Normalized	N/A		
Preheat	N/A		
Austenitized/Hardened	1600 °F	45 Minutes	
Spray Quenched	102.8 °F - 104.8 °F	N/A	Water
Temper	1220 °F	1 Hour 15 Minutes	Air Cooled to Ambient
Temper	N/A		

Method of heat treat monitor, set point thermocouple (Type K). Equipment calibrated per AMS2750E.

We hereby certify the above material has been treated in the manner described are correct as contained in the records of Apollo Heat Treating and Processing, LLC.

Randy L. Call

Plant Manager

Apollo Heat Treating & Processing, LLC

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-HR50-Q.375  
DATE: SEP 27 2017

MATERIAL CERT REC'D: 16544  
QUANTITY RECEIVED: 16544  
QUANTITY INSPECTED: 16544  
QUANTITY REJECTED: 0

PO / BATCH NO.: 0037836/M138616

THICKNESS ORDERED: 0.375  
THICKNESS RECEIVED: 0.366  
SHEET SIZE ORDERED: N/A  
SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y	
CORRECT FINISH	Y	
CORROSION	Y	
CORRECT GRAIN DIRECTION	Y	
CORRECT MATERIAL PER M-DRAWING	Y	
CORRECT THICKNESS	Y	
PHOTO REQUIRED	Y	
CORRECT REF # TO LINK CERT	Y	
CORRECT MATERIAL IDENTIFICATION	Y	
CORRECT M# ON THE MATERIAL	Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

Testers located in the Quality Office

QC 18 INSPECTION  
ENGINEERING SIGNOFF (if required)  
INSPECTED BY: [Signature]  
DATE: SEP 27 2017  
SIGNED OFF BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

REV	DESCRIPTION	DATE	BY	APPROVED
A	NEW ISSUE	24.01.15	SAC	WM

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL:

SPECIFICATION:

PART NUMBER:

HOT ROLLED STEEL PLATE

ASTM A36 OR ASTM A1011 OR 44W OR ASTM A1018

MT-HRS-P-[L.LL]x[W.WWW]x[T.TTT]

WHERE L.LL IS PLATE LENGTH IN INCHES

WHERE W.WWW IS PLATE WIDTH IN INCHES


WHERE H.HHH IS PLATE THICKNESS IN INCHES

MT-HRS-P-24.000x24.000x0.750

TOLERANCES PER MANUFACTURER SPECIFICATIONS

EXAMPLE:

Eqv 17.657

 <b>DART</b> Aerospace	
TITLE <b>HOT ROLLED STEEL PLATE</b>	
Dwg No.	
PART NAME <b>MT-HRS-P</b>	
DESIGNED BY VML 09/12/2017	CHECKED BY VML 09/12/2017
DRAWN BY VML 09/12/2017	DIMENSIONS UNITS: INCHES
DATE 09/12/2017	SCALE NTS WEIGHT N/A IBS
APPROVED BY VML 09/15/2017	DATE 9/15/2017
SHEET 1 OF 1	

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4140A-B1,750 DATE: SEP 27 2017

THICKNESS ORDERED: 1.750  
 THICKNESS RECEIVED: 1.778  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 2'  
 QUANTITY INSPECTED: 2'  
 QUANTITY REJECTED: 0

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	
CORRECT THICKNESS	<input checked="" type="radio"/> Y	
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
HRC	HRB	DUR A	DUR D	WEBSTER
RECORD RESULTS BELOW				
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION  
 ENGINEERING SIGNOFF (if required)  
 INSPECTED BY: 5  
 SIGNED OFF BY: 8-89  
 DATE: SEP 27 2017

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



DESIGN		DRAWN BY	
CHECKED		APPROVED	
DATE	05.02.21	TITLE	4140 ROUND BAR
SCALE	1:1	DRAWING NO.	M4140H-R
REV. A		SHEET 1 OF 1	
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
NEW ISSUE		05.02.21	

PURCHASE MATERIAL: AISI 4140H ROUND BAR  
DAS  
5  
889

PER AISI 4140 OR ASTM A304-02/-A-434-BC /  
-A193-03-GRADE-B7 / -A29-03 / -A322-91 OR  
UNS # - G41400

MINIMUM ULTIMATE TENSILE STRENGTH = 100 KSI  
MINIMUM YIELD TENSILE STRENGTH = 66 KSI

PART NUMBER: M4140H-R | D.DDD | DIA.  
WHERE D.DDD = DIAMETER IN INCHES

EG. 7/8" ROUND BAR = M4140H-R.875

RELEASED  
05 03 25

Copyright © 2005 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>5</u>	SIGNED OFF BY: _____	DATE: <u>SEP 27 2017</u>

Testers located in the Quality Office

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
RECORD RESULTS BELOW				
HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	ASTM A108
CORRECT THICKNESS	<input checked="" type="radio"/> Y	
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	HT # 136550
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

MATERIAL CERT REC'D: <u>yes</u>	THICKNESS ORDERED: <u>2.50</u>
QUANTITY RECEIVED: <u>1</u>	THICKNESS RECEIVED: <u>2.50</u>
QUANTITY INSPECTED: <u>1</u>	SHEET SIZE ORDERED: <u>N/A</u>
QUANTITY REJECTED: <u>0</u>	SHEET SIZE RECEIVED: <u>N/A</u>

MATERIAL: M1018 B2.250 DATE: SEP 27 2017

PO / BATCH NO.: 0037836/M138616

# MATERIAL RECEIPT INSPECTION FORM

# SPECIFICATION CONTROL DRAWING

DAS

5

8-89

PURCHASE MATERIAL: AISI 1018-1025 ROUND BAR

SPECIFICATION:

MIL-S-7097 OR ASTM A108

PART NUMBER:

M1018-R/D DDD WHERE D,DDD = DIAMETER IN INCHES  
DIA.

EG. 7/8" ROUND BAR = M1018-R0.875

TOLERANCES:

PER ASTM A108 AS FOLLOWS:

SIZE	TOLERANCE
UP TO 1.5" INCL.	+0.000/-0.002
OVER 1.5" TO 2.5" INCL.	+0.000/-0.003
OVER 2.5" TO 4.0" INCL.	+0.000/-0.004
OVER 4.0" TO 6.0" INCL.	+0.000/-0.005
OVER 6.0" TO 8.0" INCL.	+0.000/-0.006

RELEASED  
2012-09-24

B		REFORMAT, ADD ASTM A108, ADD TOLERANCES		CP	12.09.05
A		NEW ISSUE		DS	01.06.12
REV.	DESCRIPTION	BY	DATE		
DESIGN	DS				
DRAWN	CP				
CHECKED	CP				
MFG. APPR.					
APPROVED					
DE APPR.					
DATE	12.09.05				
<p><b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA</p> <p>DRAWING NO. M1018-R</p> <p>TITLE 1018-1025 ROUND BAR</p> <p>REV. B SHEET 1 OF 1</p> <p>SCALE NTS</p> <p>COPYRIGHT © 2001 BY DART AEROSPACE LTD</p> <p>THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED ONLY FOR THE PURPOSES SPECIFIED HEREIN. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.</p>					

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-HRPO-56GA DATE: SEP 27 2017

PO / BATCH NO.: 0037836/MB8616

MATERIAL CERT REC'D: 505614  
 QUANTITY RECEIVED: 505614  
 QUANTITY INSPECTED: 505614  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .194  
 THICKNESS RECEIVED: .183  
 SHEET SIZE ORDERED: 5x10  
 SHEET SIZE RECEIVED: 5x10

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	
CORRECT THICKNESS	<input checked="" type="radio"/> Y	ASTM A1011
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	HT# 9373C4-55
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS SIGNED OFF BY: \_\_\_\_\_

DATE: SEP 27 2017 DATE: \_\_\_\_\_

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

REV.	DESCRIPTION	DATE	BY	APPROVED
A	NEW ISSUE	14.09.08	SAC	WIM

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL:

SPECIFICATION:

PART NUMBER:

HOT ROLLED PICKLED & OILED STEEL SHEET  
 ASTM A36 OR ASTM A1011  
 MT-HRPO-S-ILLI~~XTW:WWWXICQ28~~  
 WHERE L,LL,LL IS SHEET LENGTH IN INCHES  
 WHERE W,WWW IS SHEET WIDTH IN INCHES  
 WHERE G IS GAUGE THICKNESS  
 MT-HRPO-S-24x12x6GA

EXAMPLE:

GAUGE THICKNESS REFERENCE:

GAUGE

NOM. THICK. (IN)

THICKNESS RANGE (IN)

4	0.2242	0.2332-0.2152
5	0.2092	0.2182-0.2002
6	0.1943	0.2033-0.1853
7	0.1793	0.1883-0.1703
8	0.1644	0.1734-0.1554
9	0.1495	0.1585-0.1405
10	0.1345	0.1405-0.1285
11	0.1196	0.1236-0.1136
12	0.1046	0.1106-0.0986
14	0.0747	0.0797-0.0697
16	0.0598	0.0648-0.0548
18	0.0478	0.0518-0.0438

<b>DART</b> AEROPAGE Technology Group, Canada	
TITLE HOT ROLLED P&O STEEL SHEET	
PART NO MT-HRPO-S	
DESIGN BY: SAC 06/2012 CHECKED BY: YMA 09/06/2012 DATE: 09/06/2012 APPROVED BY: NTS 09/07/2012 DATE: 9/6/2012	SCALE: 1:1 SHEET 1 OF 1

THIS DOCUMENT IS THE PROPERTY OF DART AEROPAGE LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED AND NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

**PURCHASE ORDER**  
Purchase Order ID PO37836  
Purchase Order Date 9/22/2017  
PO Print Date 9/22/2017  
Page Number 1 of 3

Order From :

VC-CAM002

Ship To : DART AEROSPACE LTD

ACIER OUELLETTE INC.  
935 BOUL. DU HAVRE  
VALLEYFIELD, QC J6S 5L1  
CANADA

Contact Name  
Vendor Phone 800 667 4248  
Ship To Contact  
Ship To Phone  
Ship Via: Yours pdd  
Ship Acct:

Buyer  
Customer POID

Chantal Lavoie

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line	Reference	Vendor Part Number	Description/	Mfg ID	Reg Date/	CD	Reg Qty/	Unit of	Measure	PO Unit Price	Extended
------	-----------	--------------------	--------------	--------	-----------	----	----------	---------	---------	---------------	----------

1	MT-A513-T-1.000W0.120		A513 Seamless Alloy Steel		10/6/2017	FN	20.00		f	\$11.25	\$225.00
MATL: ASTM A513 SEAMLESS ALLOY STEEL ROUND TUBING AS PER											
ASTM A513											
Yes											
10/6/2017											
Round Tubing 1"dia. x											
0.120" Wall											
Yes											
10/6/2017											
FN											
2.00											
f											
\$37.50											
Line Total:											
\$225.00											

2	M4140H-R1.750		4140 Round Bar 1.750		10/6/2017	FN			f		
MATL: AISI 4140H ROUND BAR AS PER											
UNS G41400											
AISI 4140/ASTM A304-02/A-434-BC OR A193-03- GRADE B7/A29-03/A322-91 OR											
Line Total:											
\$75.00											

Line Total:

\$75.00

PO Instructions: QUOTATION: SOU0057382  
Note:

9/22/2017



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

**PURCHASE ORDER**  
Purchase Order ID PO37836  
Purchase Order Date 9/22/2017  
PO Print Date 9/22/2017  
Page Number 2 of 3

Ship To : DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Order From :

ACIER OUELLETTE INC.  
935 BOUL. DU HAVRE  
VALLEYFIELD, QC J6S 5L1  
CA

Contact Name  
Vendor Phone 800 667 4248

Ship To Contact  
Ship To Phone  
Ship Via:  
Ship Acct:

Yours ppd

3 MT-HRPO-S6GA

Hot Rolled Pickled &  
Oiled Steel Sheet 6GA

10/6/2017  
Yes

MATL: HOT ROLLED PICKLE & OILED STEEL SHEET AS PER  
ASTM A36 OR ASTM A1011

4 M1018R2.250

M1018R2.250

10/6/2017  
Yes

MATERIAL: AISI 1018-1025 ROUND BAR AS PER  
MIL-S-7097 OR ASTM A108

5 MT-HRS-P-0.375

Hot Rolled Steel Plate  
0.375" (44W)

10/6/2017  
Yes

MATL: HOT ROLLED STEEL PLATE AS PER  
ASTM A36/ASTM A1011 /44W OR ASTM A1018

Buyer Chantal Laviole  
Customer POID  
Customer Tax # 10127-2607  
Terms Net 30  
Currency CAD  
FOB FCA - (Free Carrier)

50.00  
sf

\$7.20

\$360.00

Line Total:

\$360.00

\$17.16

\$17.16

8017-9-27

Line Total:

\$17.16

\$13.92

\$222.68

Line Total:

\$222.68

8017-9-27

PO Instructions: QUOTATION: SOU0057382  
Note:

9/22/2017



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

**PURCHASE ORDER**  
Purchase Order ID PO37836  
Purchase Order Date 9/22/2017  
PO Print Date 9/22/2017

Page Number 3 of 3

Order From :

ACIER OUELLETTE INC.  
935 BOUL. DU HAVRE  
VALLEYFIELD, QC J6S 5L1  
CA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name

Vendor Phone 800 667 4248

Ship To Contact

Ship To Phone

Ship Via:

Yours ppp

Ship Acct:

6 71401-45

PROCUREMENT  
QUALITY CLAUSES

10/6/2017

No

10/6/2017

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

Buyer Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

CAD

FCB - (Free Carrier)

1.00

\$0.00

\$0.00

Line Total:

\$0.00

PO Total:

\$899.84

PO Instructions: QUOTATION: SOU0057382

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Change Nbr: 2

Change Date: 9/22/2017





ACIER OUELLETTE INC.  
935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

SOU0057382

Customer No

CL10001056

Date

2017/09/12

Revision No

0

Prices valid until

2017/09/19

Your Order No

BERNARD

Salesman

JOSIANNE

Carrier

QUELLE SDV

Credit Terms

Net 30 Days

Page

1

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.

HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

At : CHANTAL LAVOIE Tél.: 613-632-5200

Product No and description	Weight	Qty U/M	Qty U/M	Price	Pcs Nb	Price	Amount
----------------------------	--------	---------	---------	-------	--------	-------	--------

CR SHEET 206 (4 X 8) FECR-20648 1 X 4' X 8' STOCK 3282	48.00	32.00	P12-\$CLB	1.00	UN	38.380	38.38
---	-------	-------	-----------	------	----	--------	-------

PLATE 44W 3/8 RANDOM P44-38-V 4116 1 X 4' X 4' STOCK NON-DISPONIBLE 1018-1020 OFFRE 44W COUPE AU FEU FEU 3	244.80	16.00	P12-\$CLB	16.00	P12	222.680	222.68
--	--------	-------	-----------	-------	-----	---------	--------

ROUND CR 2 1/4 1018 RANDOM RCR-214-V 5301 1 X 12" STOCK COUPE A LA SCIE SCIE 1	13.52	1.00	PI-\$CLB	1.00	PI	17.160	17.16
--	-------	------	----------	------	----	--------	-------

FEUILLE HRPO 3/16 N 1 X 5' X 10' 2-3 JOURS ONLY THAT SIZE AVAILABLE	0.00	1.00	UN	1.00	UN	360.000	360.00
--	------	------	----	------	----	---------	--------

COLD DRAWN SEAM, TUBING 1" OD X .120 N 1 X 20' 2-3 DAYS MT-AS13	0.00	1.00	UN	1.00	UN	255.000	255.00
--	------	------	----	------	----	---------	--------

4140N 1 3/4" DIA N 1 X 2' 3-4 DAYS	0.00	1.00	UN	1.00	UN	75.000	75.00
--	------	------	----	------	----	--------	-------

SURCHARGE ENERGÉTIQUE FRAIS_ENERGÉTIQUE							3.95
--	--	--	--	--	--	--	------

Total Weight (Lbs)	306.32						
--------------------	--------	--	--	--	--	--	--

Sub-total	972.17						
-----------	--------	--	--	--	--	--	--

Total (\$CAD)	1 098.55						
---------------	----------	--	--	--	--	--	--

Date :							
--------	--	--	--	--	--	--	--

TVH-13 • 126.38							
-----------------	--	--	--	--	--	--	--

Approved and Accepted by :							
----------------------------	--	--	--	--	--	--	--

This offer is based on availability and current pricing conditions that may be revised upon							
---	--	--	--	--	--	--	--

These offers are subject to the condition of sale and the evolution of the market.							
--	--	--	--	--	--	--	--

Des offres sont soumises à la condition de vente et à l'évolution du marché.							
--	--	--	--	--	--	--	--

Important							
-----------	--	--	--	--	--	--	--

Chantal Lavoie

From: Regis Quenneville  
Sent: Wednesday, September 13, 2017 9:49 AM  
To: Kim Johnston; Chantal Lavoie  
Cc: David Duval  
Subject: C10 CAGE MAT'L

Kim, here is the mat'l left to enter into the system for the C10 Cage.

Chantal, once that's entered everything should be in the system for the Cage. I will find out how many we need to make before you order should only be one.

Thx

MT-HRPO-S-24.000X24.000X6GA  
MT-A513-T-1.000X0.120  
MT-HRS-P-24.000X24.000X0.375  
MT-A513-T-1.000X0.120  
MT-A513-T-1.000X0.120

Here is the complete list of mat'l and hardware we need to order to make one C10 Cage ass'y :

M1018S.312 (4'x4')  
M1018R2.250 (1')  
MT-HRPO-S-24.000X24.000X6GA (x1)  
MT-A513-T-1.000X0.120 (24')  
MT-HRS-P-24.000X24.000X0.375 (x1)  
MT-A513-T-1.000X0.120 (omit)  
MT-A513-T-1.000X0.120 (omit)  
6381K193 (x1)  
M4140H-R1.750 (1')  
91257A857 (x1)  
E31Z-4730-A (x1)  
90576A118 (x1)  
91074A131 (x1)  
98338A290 (x1)  
AN8-37A (x2)  
AN960-816L (x4)  
MS21044N8 (x2)

MT-HRPO-S-65A  
MT-HRS-P-G.375

please change mat'l. on Bom.